Fact Sheet: Aircraft Drinking Water Rule

The Environmental Protection Agency (EPA) is proposing to amend the National Primary Drinking Water Regulations (NPDWRs) for aircraft public water systems under the Safe Drinking Water Act (SDWA). Aircraft public water systems are subject to the requirements of SDWA and the NPDWRs.

Why is EPA proposing the ADWR?
The primary purpose of the ADWR is to ensure that safe and reliable drinking water is provided to aircraft passengers and crew. This entails providing air carriers with a feasible way to comply with SDWA and NPDWRs. The existing NPDWRs were designed for traditional, stationary public water systems (PWSs), not mobile aircraft water systems that are operationally very different. Aircraft must maintain rigorous operating schedules. They fly to multiple destinations throughout the course of any given day and may board drinking water from sources at any of these destinations. Aircraft board water from airport watering points via temporary connections. Aircraft drinking water safety depends on a number of factors including the quality of the water that is boarded from these multiple sources, the care used to board the water, and the operation and maintenance of the onboard water system and the water transfer equipment (such as water cabinets, trucks, carts, and hoses). These unique operational characteristics present different challenges that necessitate tailoring of the NPDWRs for aircraft PWSs in the ADWR.

What concerns does this proposal address?
During a reevaluation of the drinking water requirements for interstate carrier conveyances, EPA worked with air carriers and concluded that it is not feasible for air carriers to comply with all of the monitoring that is required in the existing regulations. Subsequently, in 2004, EPA tested 327 aircraft of which 15 percent tested positive for total coliform. EPA considers this to be a high percentage of positive samples.

In response to these findings, EPA embarked on an accelerated process to tailor the existing regulations for aircraft public water systems. In the interim, EPA placed 45 air carriers under Administrative Orders on Consent (AOC) that will remain in effect until tailored aircraft drinking water regulations are final.

Who will be affected by this rule?
Aircraft which convey passengers in interstate commerce and are public water systems that board only finished water will be affected by this rule. Aircraft that do not provide water for human consumption or those with water systems that do not regularly serve an average of at least twenty-five individuals daily do not meet the definition of a PWS. The ADWR only addresses aircraft within U.S. jurisdiction; however, EPA is supporting an international effort led by the World Health Organization to develop international guidelines for aircraft drinking water. The ADWR applies to the aircraft's onboard water system only. The components include: water service panel, storage tanks, pipes, valves, treatment devices, and plumbing fixtures within the aircraft that supply water to passengers or crew. The Food and Drug Administration (FDA) is responsible for regulating the

watering points that include the water cabinets, carts, trucks, and hoses from which aircraft board water. EPA and the states are responsible for regulating the public water systems that supply drinking water to the airport watering points.

How much will the rule cost water suppliers and consumers?
EPA assumes that air carriers will pass on some or all of the costs of a new regulation to their passengers in the form of ticket price increases. EPA estimates that 708.4 million passengers travel each year on aircraft that are affected by the ADWR. EPA estimates air carriers' total annualized cost of the ADWR to be about $8.0 million using a 7 percent discount rate. The cost passed on to passengers can be roughly estimated by dividing the air carriers' annualized costs incurred by the number of passengers traveling each year. Based on this approximation, EPA estimates that passengers could face a relatively negligible increase of about one cent per ticket.

What does the rule require?
The rule combines coliform sampling, best management practices, corrective action, public notification, operator training, and reporting and recordkeeping to improve public health protection. EPA believes that this rule provides the flexibility to meet the ever changing needs of the air carrier industry while still providing adequate barriers of protection.

What is the frequency for coliform sampling?
The frequency of coliform monitoring is tied to the frequency of disinfection and flushing of the aircraft water system as follows:

Frequency for Aircraft PWS Routine Coliform Sampling and Routine Disinfection and Flushing

Disinfection and Flushing Frequency	Coliform Sampling Frequency
At least quarterly	Annually
One to three times per year	Quarterly
Less than once per year	Monthly

Two coliform samples are taken per monitoring period: One sample must be taken from a lavatory and one sample from a galley. Any total coliform-positive sample must be further analyzed for the presence of fecal coliform or *E. coli*. The frequency of disinfection must be no less than the minimum recommended by the manufacturer, though it may be more frequent. This allows for equipment-specific designs and for flexible implementation with the evolution of technology.

What triggers corrective action and public notification?

Corrective Action and Public Notification Requirements for Aircraft PWS		
Monitoring Result	**Corrective Action**	**Public Notification**
If no more than one routine sample is total coliform-positive, and it is fecal coliform/*E. coli*-negative	-- Perform disinfection and flushing no later than 72 hours after being notified by lab of total coliform-positive result; and --Collect follow-up samples. or -- Collect 4 repeat monitoring samples no later than 24 hours after being notified by lab of total coliform-positive result	None Required.
If more than one routine sample result or a combination of routine and repeat samples is total coliform-positive (but all are fecal coliform/*E. coli*-negative)	-- Restrict public access to water system no later than 24 hours after being notified by lab of positive result; -- Perform disinfection and flushing prior to resumption of unrestricted access to water system, or no later than 72 hours if water system cannot be shut off to passengers and crew; and -- Collect follow-up samples.	Within 24 hours, public notification issued until all follow-up samples are negative for total coliform.
One or more routine or repeat sample result is fecal coliform/*E. coli*-positive	-- Restrict public access to water system no later than 24 hours after being notified by lab of positive result; -- Perform disinfection and flushing prior to resumption of unrestricted access to water system; or no later than 72 hours if water system cannot be shut off to passengers and crew; and -- Collect follow-up samples.	Within 24 hours, public notification issued until all follow-up samples are negative for total coliform.

Corrective Action and Public Notification Requirements for Aircraft PWS		
Monitoring Result	**Corrective Action**	**Public Notification**
Failure to collect required routine samples	-- Perform disinfection and flushing within 72 hours.; and -- Collect follow-up samples.	Notify passengers and crew no later than 24 hours after discovery of failure to collect required samples or after being notified by EPA of failure to collect required samples, continue public notification until all follow-up samples are negative for total coliform.
Failure to collect repeat or follow-up samples	-- Restrict public access to the water system no later than 24 hours after discovery of failure to collect required samples or after being notified by EPA of failure to collect required samples. -- Perform disinfection and flushing prior to resumption of unrestricted access to water system; or no later than 72 hours if water system cannot be shut off to passengers and crew; and -- Collect follow-up samples.	Within 24 hours, public notification issued until all follow-up samples are negative for total coliform.

What coliform sampling plans and operations and maintenance plans need to be developed?

Each air carrier, for each aircraft that it owns or operates, must have a coliform sampling plan and an aircraft PWS operation and maintenance plan within six months after the final rule is published for each existing aircraft public water system, and within the first calendar quarter of initial operation for new aircraft PWS. These plans must be included in a Federal Aviation Administration-approved or accepted aircraft operations and maintenance program. The frequency for routine coliform sampling must also be reported to EPA.

What types of inspections or audits are required by the rule?
Each air carrier must conduct a self-inspection of each aircraft water system no less frequently than once every 5 calendar years. In addition, EPA may conduct compliance audits as deemed necessary. The air carrier must address significant deficiencies found as a result of routine compliance audits or self-inspections within 90 days of identification of the deficiency.

How will information (inventory data, sampling data, etc) be transmitted to EPA?
Reporting will begin 6 months following promulgation of the ADWR. As the primacy agency, EPA has oversight responsibility for aircraft PWS reporting information. To facilitate collection and analysis of aircraft PWS data, EPA is developing an internet-based electronic data collection and management system. This approach is similar to that used under the EPA SDWIS/STATE (Safe Drinking Water Information System/State version) reporting program. This is intended to reduce the reporting errors and limit the time involved in investigating, checking, and correcting errors at all levels. If an air carrier determines that it or its laboratory does not have the capability to report data electronically, the air carrier can submit a request to EPA to use an alternate reporting format. Regardless of the reporting process used, air carriers are to report the required information based on the schedule as stipulated in the ADWR.

How can I get more information?
The proposed rule and other supporting information are available on EPA's Web site at http://www.epa.gov/safewater/airlinewater/index2.html. For additional information, contact the Safe Drinking Water Hotline toll free Monday through Friday, 10:00 am to 4:00 pm eastern time (except Federal holidays) at 1-800-426-4791.